

# Course : NGINX, administering a Web server

Practical course - 4d - 28h00 - Ref. GXN

Price : 2200 € E.T.

BEST

As an alternative to the Apache Web server, NGINX is the ideal solution for managing high-traffic websites. During this course, you'll install and configure NGINX. You'll learn about basic functions, security, multi-site hosting and load balancing.

## Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Manage HTTP requests including C10K, threads and memory
- ✓ Configuring virtual hosts with NGINX
- ✓ Implement HTTPS for a secure Web application
- ✓ Creating a proxy with NGINX
- ✓ Managing server scalability

## Intended audience

This course is designed for people who have to implement or maintain Web servers exposed to heavy load constraints (administrators, operators, integrators, etc.).

## Prerequisites

Basic knowledge of Linux/Unix administration and networks (mainly TCP/IP).

## Course schedule

### 1 Introduction

- HTTP protocol: the basics.
- The C10K problem, threads and memory.
- NGINX's asynchronous architecture.

### Hands-on work

HTTP request inspection.

## PARTICIPANTS

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## PREREQUISITES

Basic knowledge of Linux/Unix administration and networks (mainly TCP/IP).

## TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

## ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.

Participants also complete a placement test before and after the course to measure the skills they've developed.

## 2 Installing and getting started with NGINX

- Overview of available packages.
- Compile NGINX from source.
- Startup, command line options and signals.
- Documentation.

### Hands-on work

Install, start the server, create a simple configuration.

## 3 Server and virtual host configuration

- Configuration file structure.
- Server configuration. Identity, limits and tuning.
- The "server" blocks and "location" blocks, directives concerning requests.
- Variables (use).
- NGINX and virtual hosts.

### Hands-on work

Configure virtual hosts, start multiple instances.

## 4 Security, redirection and address rewriting

- Customer access control by IP address.
- HTTP authentication.
- Query filtering and address rewriting.
- Manage error pages.
- SSL, HTTPS host implementation.
- Logs, formats and configuration.

### Hands-on work

Implement HTTPS, access control and filtering.

## 5 Proxy, Frontal, and reverse proxy

- Simple proxy with NGINX.
- SSL proxy to another HTTP server.
- Proxy cache: tool and use of inotifywait.
- Handle errors between front-end and server-real.

### Hands-on work

Implementation of different configurations using NGINX on the Apache front end.

## 6 Dynamic content and FastCGI

- Modify the encoding and content of responses on the fly.
- FastCGI Process Manager (FPM).
- Serve PHP or PERL applications with FPM.
- Content caching (Memcached).

### Hands-on work

Implementation of a phpMyAdmin application and installation of WordPress.

### TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

### TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

### ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

## 7 Load management and distribution

- Monitoring and Accounting.
- Proxy mechanisms and load balancing.
- Front-end implementation with upstream.
- Limit server load.
- Observe load and statistics: sar, Munin.
- Tool and comparative load test: Gatling.

### Hands-on work

Test server load in different configurations, study memory and response times. Visualize load with Munin.

## Dates and locations

### REMOTE CLASS

2026 : 19 May, 21 July, 29 Sep., 24 Nov.

### PARIS LA DÉFENSE

2026 : 19 May, 21 July, 29 Sep., 24 Nov.